WHITEWATER CREEK WATERSHED (LR14)

Lake LaGrange along the Kettle Moraine/Ice Age Trail

This watershed lies in the northwest corner of Walworth County and stretches into southern Jefferson County. A portion of the Kettle Moraine State Forest runs along the southeast edge of the watershed. Land use is predominately agricultural. Historical development of land for agriculture and current development of land for residential areas is responsible for the draining of many wetlands and the ditching and straightening of some streams in the watershed.

Based on soil loss evaluations in county soil erosion control plans, the town of Cold Spring in Jefferson County ranked last in soil eroded above tolerable limits. The town of Whitewater in Walworth County is the 12th ranked in the county for total soil loss. The Whitewater Creek part of Rock County ranks third for soil loss in that county with an average of 7.6 tons/acre/year.

This watershed has a high susceptibility for groundwater contamination based on WDNR groundwater susceptibility mapping.

The city of Whitewater is the only major urban area and its wastewater treatment plant discharges to Whitewater Creek. The City of Whitewater's population grew almost 2% from 1995 – 2000 to 13,437. The Town of Whitewater has a population of rougly 1,400.

Table 1. Municipalities in the Whitewater Creek Watershed (LR14)

Municipality	County	1995 Population	2000 Population	Percent Growth 1995 - 2000
City of Whitewater	Walwoth, Jefferson	13,183	13,437	1.9
Town of Whitewater	Walworth	1,434	1,399	-2.4

Central stoneroller

STREAMS

Whitewater Creek flows north out of Whitewater Lake to its confluence with the Bark River. From Whitewater Lake to Tripp Lake at Whitewater, water quality is considered good. A portion of this reach, from Bluff Creek downstream to Willis Ray Road (1.9 miles) has the potential to become Class II trout water; additional land acquisition and habitat improvement would be necessary to achieve this potential use.

Brook sticklebacks

The reach from Tripp Lake to the Jefferson County line flows through Cravath Lake and the city of Whitewater. Water quality was historically degraded by poorly treated effluent from the old Whitewater wastewater treatment plant, which was upgraded in 1982. As the quality of the effluent improved, the quality of the river, now judged as fair, improved as well. Today the primary problems include the lack of comprehensive stormwater

Common shiner

management planning for the city of Whitewater and old or outdated floodplain zoning maps. The City of Whitewater has recently expanded its sewer service area, which will result in increases in impervious surface areas and enhanced stormwater volumes. Whitewater Creek and its riparian areas should be protected by updated floodplain zone maps, conservancy zoning of sensitive lowland and adjacent areas, and comprehensive stormwater management planning that emphasizes water quality and reducing peak storm water flows (WDNR).

The reach from the Jefferson County line to its confluence with the Bark River flows through agricultural land where water quality is affected by runoff contaminated with solids, pesticides, fertilizer, and other agricultural by-products. About seven miles of tributary streams are ditched and straightened and most wetlands are drained. The fishery consists of forage fish and panfish; rough fish are problematic in the lower end of the stream.

Brown trout: adult and fingerlings

Bluff Creek The segment of Bluff Creek from the headwaters down to County Highway P has been designated as an exceptional resource water by WDNR. It contains a naturally reproducing population of brown trout. Polluted runoff impacts are minimal and water quality is very good.

From Highway P to its confluence with Whitewater Creek, the water quality of Bluff Creek is considered very good with minimal runoff pollution impacts. In this stretch, brown trout are stocked annually by WDNR. Habitat improvement projects have been initiated over the past several years with very good success.

LAKES

Smallmouth bass

Whitewater Lake is a medium-sized lake with a good Warm Water Sport Fishery within the boundary of the Kettle Moraine State Forest. Dense cottage/home development exists along portions of the shoreline and water quality is impaired by runoff from surrounding lands and by failing septic systems. Dense Eurasian water milfoil and other aquatic plant growth have also impaired water uses. The Whitewater Lake Management District has an approved aquatic plant management plan and WDNR has completed a Sensitive Areas Investigation of the lake (SEWRPC). WDNR has funded intensive monitoring by the U.S. Geological Survey through the Lake Management Planning Program. The results are available in the report *Hydrology and Water Quality of Whitewater and Rice Lakes in Southeastern Wisconsin, 1990-1991*, published in 1993. Southeast Wisconsin Regional Planning Commission (SEWRPC) recommendations for Whitewater Lake and its watershed include onsite sewage system management, rural and urban polluted runoff management, livestock management, nutrient inactivation, dredging, sediment covering, and fish management (SEWRPC).

Resources of Concern (LR14)

WDNR's Heritage Resources Database indicates that the following water-dependent endangered, threatened or special concern species and/or communities have been sighted in this watershed within the last 20 years.

Table 2. Endangered, Threatened or Species of Special Concern

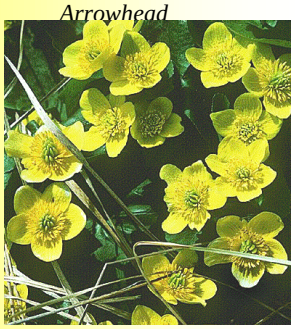
Species Common Name	Latin Name	Habitat
Least Darter	*Etheostoma Microperca*	Whitewater Creek

Table 3. Endangered, Threatened or Communities of Special Concern

Community	Location	Indicator Species/Description
Southern Sedge Meadow, Calcareous Fen	Kettle Moraine Springs	A system of active calcareous springs supporting a fen and a southern sedge meadow. The entire drainage area is within the Kettle Moraine State Forest.
Calcareous Fen, Slow hard, warm stream, Wet Mesic Prairie	Clover Valley Fen	Series of peat mounds rises several meters above mosaic of sedge meadow, wet mesic prairie, shrub carr and abandoned pastures, fields, which border tributary of Bluff Creek. Mounds support rich vascular flora. Spring discharge areas found on mound slopes. Sensitive grassland species inhabit area.
Emergent Aquatic, Southern Sedge Meadow, Calcareous Fen	Bluff Creek Fishery Area	A series of springs and elevated spring runs and seepage slopes which originate at the base of a morainal ridge. Along the springs and Bluff Creek is a calcareous meadow. Large bubbling springs are the largest and least disturbed in the region.
Southern Dry Forest, Springs and spring runs, Southern Dry Mesic Forest	Bluff Creek Springs, Fens, and Oak Woods	Xeric forest of burr-black-red and white oaks. Patches of open woodland, savanna, and dry prairie species.
Emergent Aquatic	Lake Loraine Marsh	Marsh on southwest side is composed of cattails in deeper areas and bluejoint grass on firmer sites; marsh birds inhabit site.
Emergent Aquatic	Lake No. 10	Site is a large marsh of river bulrush, cattails, and arrowhead. No development documented; situated in morainal hills.
Emergent Aquatic, Springs and Spring Runs	Whitewater Lake Park	NA
Wet Mesic Prairie	Cold Spring Prairie	Diverse vascular plants in rich prairie remnant.

Blue-joint grass

Arrowhead



Marsh marigold

RECOMMENDATIONS

SEWRPC is the designated planning agency for Waukesha and Walworth counties. Please consult SEWRPC Planning Report Number 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: Update and Status Report (1995) for additional information.

1. The Lower Rock River Basin Team should investigate the feasibility of land acquisition and/or habitat improvement for a trout fishery along a portion of Whitewater Creek. [1]

2. The Lower Rock River Basin Team should conduct water quality and biotic index monitoring on Bluff Creek and Whitewater Creek above Tripp Lake. [1]

3. The Lower Rock River Basin Team should conduct sediment and water quality monitoring on Bluff Creek to establish water quality background levels for the Lower Rock River Basin. [1]

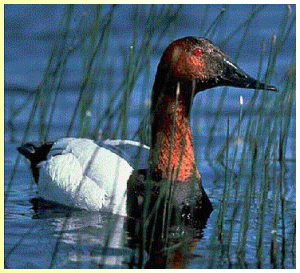
The tussock sedge in flower

4. The city of Whitewater should undertake a comprehensive stormwater management planning process that includes updating floodplain zone maps; recommending conservancy zoning of sensitive lowland and adjacent areas; and comprehensive stormwater management planning that is tied into existing land use plans, plats and construction site erosion control and storm water ordinances to protect Cravath and Tripp lakes and Whitewater Creek. [1]

5. Walworth County Land Conservation Department should review farm practices and farm conservation plans for the area above Cravath and Tripp lakes to identify any significant sources of sediment and nutrients to the lakes and Whitewater Creek. [2]

6. Walworth County and the city of Whitewater should take advantage of federal, state and private funding opportunities to acquire additional public access and lands on Cravath and Tripp lakes. [2]

7. The city of Whitewater and/or Walworth County should apply for a lake planning grant to investigate the water quality problems of Cravath and Tripp lakes. [2]



Canvasback

1. These recommendations are a basis for work planning or other decisions, which must be approved by the appropriate DNR division administrator (the recommendations are a starting point for the work planning process.

2. These recommendations are advisory to the public, local governments, lake management organizations, and other groups or agencies. These recommendations are not binding. No statutory or codified requirements exist

ACKNOWLEDGMENTS

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Wet-mesic prairie

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Bluegill

Table 4. Streams in the Whitewater Creek Watershed (LR14)

Stream Name	WBIC	County	Length (Miles)	Existing Use (Miles)	Potential Use (Miles)	Supporting Potential Use (Miles)	Current Codified Use	303(d) Status	Use Impairment		Data Assess-ment	Data Level	Trend	References
									Source	Impact				
Bluff Creek	0816100	Walworth	2	COLD/2	Same	Full-Thr	ORW/1 COLD/1	N	NPS, CE, PSB, SB	NUT, TEMP, DO, SED, MAC, HAB	M	B4 H4 C3	S	48, 55, 69, 84, 86
Galloway Creek	0814000	Jefferson Rock	5	WWFF/5	Same	Part	WWSF*	N	HM, DEV, CL, PSB	FLOW, HAB, NUT, SED, DO, TEMP	E	B3 H3	S	4, 17, 27, 28, 47, 55, 59, 60, 82
Spring Brook	0815300	Rock Walworth	8	WWFF/8	Same	Full	WWSF*	N	HM, CL, SB, NPS	FLOW, HAB, TEMP, NUT, SED, DO, TURB	E	B3 H2 C1	S	4, 17, 28, 45, 46, 48, 55, 59, 60, 69, 76, 78, 84
Whitewater Creek	0813900	Jefferson Walworth	0 - 14	WWSF/14	Same	Part	WWSF*	N	HM, CL, SB, PSB, BY, CE, URB, PSM	FLOW, HAB, MIG, TEMP, TURB	E	B3 H4 C2	S	17, 27, 28, 48, 47, 55, 59, 60, 69, 76, 78, 82, 84
			14 - 16	WWSF/2	COLD/2	Not	WWSF*	N	NPS, URB, CL, CE	TEMP, TURB, SED, DO, FLOW	E	B4 H4 C3	S	
Unnamed Streams			29											

Table 5. Lakes of the Whitewater Creek Watershed (LR14)

Lake Name	County	Town, Range, Section	WBIC	Surface Area (Acres)	Max Depth (ft)	Mean Depth (ft)	Lake Type	Winter kill	Acc-ess	SH	Hg	Mac	LMO	TSI	TSI Class	Lake Plan Prot	P Sens	Impairment		Comments
																		Source	Impact	
Cravath Lake	Walworth	T04NR15E S04	0815200	68	10	3	DG	N	BR	--	GA	EM	--	--	EU	--	II Ins	URB, DEV, HM, AGSPR, CE	TURB, NUT	In City of Whitewater shoreline development program; ag. & urban shoreline; stormwater work needed
Lake LaGrange	Walworth	T04NR16E S07	0818700	55	4	2	SE	Y	W	R	GA	--	--	--		--	II Ins	--	MAC	
Lake Lorraine	Walworth	T03NR15E S09	0777500	133	8	3	SE	Y	BR	--	GA	EM-W PL	ASSC	60*	EU	--	II A	DEV, URB, NPS	HAB, NUT, SED, MAC	shallow weedy shoreline
Lake Number 10	Walworth	T03NR15E S10	0777600	34	3	--	SE	Y	--	--	GA	--	--	--		--	II Ins	--	--	
North Lima Pond	Rock	T04NR14E S03	0779000	--	--	--	--	--	--	--	GA	--	--	--		--	--	--	--	
Rice Lake (Lower Whitewater)	Walworth	T04NR15E S26	0816600	137	10	4	DG	--	BR	R	GA	EM PL	ASSC DIST	56**	EU	PLAN	II B	SEP, NPS	MAC, NUT, TURB	24 houses on lake
Tripp Lake	Walworth	T04NR15E S04	0816000	113	8	3	DG	N	BR	--	GA	EM	--	--	EU	--	II Ins	DEV, URB, CE	TURB, NUT, HAB	
Whitewater Lake	Walworth	T04NR15E S35	0816800	640	38	8	DG	N	BR	C	GA	EM-W	ASSC DIST	54***	EU	PROT PLAN	I B	SEP, NPS, URB	MAC, NUT	